Does oil palm crop age make technical efficiency difference among smallholders in Peninsular Malaysia?

ABSTRACT

This study assessed technical efficiency among oil palm smallholders according to crop age categories in the State of Johor, Peninsular Malaysia using descriptive statistics, data envelopment analysis (DEA), analysis of variance (ANOVA) and Tobit regression model. Primary data was collected from 450 oil palm smallholders through survey using multi-stage sampling. The mean technical efficiency based on VRS assumption for smallholders under <9 years, 9-18years and 19years and above crop age categories were 0.9388, 0.8584 and 0.9851, respectively. The result of ANOVA shows significant difference in technical efficiency existed among the oil palm smallholders under <9 years, 9-18years and 19years and above crop age categories at 1%. The finding also indicates that extension contact, household size, age of farmer, access to credit facilities, soil conservation practices, oil palm income, experience, educational level, off-farm income, membership of smallholder organization and government intervention among others influence technical inefficiency of the smallholders. We recommend policies such as increasing oil palm smallholder's farm sizes to enhance their technical efficiencies. There is need to re-strategies the extension program for effective monitoring and supervision of the smallholders' to ensure that they comply with recommended inputs use.

Keyword: Oil palm crop age; Technical efficiency; Smallholders; Peninsular Malaysia; DEA; ANOVA